

**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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|--------------|---|-----------------|-----------------|
| Applicants:  | Andrew J. Ries  | Examiner:       | Alyssa M. Alter |
| Serial No.   | 10/632,058  | Group Art Unit: | 3762            |
| Filing Date: | July 31, 2003   | Docket No.:     | P0011122.00     |
| Title:       | SMALL FORMAT CONNECTOR CLIP OF AN IMPLANTABLE<br>MEDICAL DEVICE |                 |                 |

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**Appeal Brief**

COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

The following Brief is submitted pursuant to the Notice of Appeal mailed August 4, 2009. A one month extension of time to file this brief is hereby requested.

Any required fee will be made at the time of submission via EFS-Web. In the event fees are not or cannot be paid at the time of EFS-Web submission, please charge any fees under 37 CFR § 1.16, 1.17, 1.136(a), or any additional fees to Deposit Account 13-2546.

I. Real party in interest

The real party in interest in this application is Medtronic, Inc, assignee of the application.

II. Related appeals and interferences

This appeal is related to the appeal in US Patent Application No. 10/632,026, filed July 31, 2003 by Lahti, et al. for a “Connector Assembly for Connecting a Lead and an Implantable Medical Device”. The Notice of Appeal in the Lahti, et al. application was filed on August 4, 2009, concurrent with the Notice of Appeal in the present application. As discussed below, the two applications are each subject to a provisional double patenting rejection with regard to the other.

The present application is not subject to a rejection over the prior art. The Lahti, et al. application has all claims rejected and that rejection has been appealed.

III. Status of the claims

Claims 1, 3 – 9, 11, 12, 14, 15, 17 – 23, 25, 26, 28 and 29 are pending in the application. Claims 2, 10, 13, 16, 24 and 27 have been cancelled. Claims 1, 3 – 9, 11, 12, 14, 15, 17 – 23, 25, 26, 28 and 29 stand rejected under obviousness-type double patenting rejections. The rejection of claims 1, 3 – 9, 11, 12, 14, 15, 17 – 23, 25, 26, 28 and 29 is hereby appealed.

IV. Status of amendments

The Response mailed March 19, 2009 has been received by the Patent according to PAIR. No Advisory Action was mailed or received, so the status of the

response is unknown. The Notice of Appeal was filed when it became clear no Advisory Action would be mailed.

The response of March 19, 2009 contained no amendments to the claims.

The Appendix of Claims reflects the claims as rejected by the Final Office Action of February 4, 2009.

#### V. Summary of claimed subject matter

There are two independent claims appealed, Claim 1 and claim 15. Patentability of the dependent claims is not separately argued.

##### A. Claim 1

Claim 1 sets forth a connector assembly for detachably connecting a lead to an implantable medical device.

The claim requires that the connector assembly comprises a first deflectable connector clip including a first arm, a second arm, and a top portion extending between the first arm and the second arm. The clip is illustrated in Figure 3 and is described in paragraphs [0038 – 40].

The claim further requires a housing having a first member and a second member, the first member having a first outer surface forming an annular shelf and the second member having a second outer surface and a cylindrical rim extending outward along and perpendicular to an outer edge of the second outer surface, the annular shelf of the first member formed to receive the cylindrical rim to be fixedly engaged with the second member to retain the first connector clip within the housing, the engaged first member and the second member forming an aperture for receiving the lead. The first and second housing members are illustrated in Figure 2 and described generally in paragraph [0037]. The structural details of the housing members are illustrated in Figures 4A – 4C, 5A – B and 6A – C and described in paragraphs [0041 – 46].

The claim further requires a first inner surface of the first member extending from the aperture to the first outer surface and a second inner surface of the second member extending from the aperture to the second outer surface. These elements correspond to the support ridges 30 or the support pegs 31 as illustrated in Figures 4A – 4C, 5A – B and 6A – C and described in paragraphs [0041 – 46].

The claim further requires a first deflection portion extending outward from at least one of the first inner surface and the second inner surface along the top portion of the first deflectable clip. This element corresponds to one of the bracing ridges 28 as illustrated in Figures 4A – 4C, 5A – B and 6A – C and described in paragraphs [0041 – 46].

The claim further requires a second deflection portion extending outward from the at least one of the first inner surface and the second inner surface to be positioned between the first arm and the second arm. This element corresponds to the other of the bracing ridges 28 as illustrated in Figures 4A – 4C, 5A – B and 6A – C and described in paragraphs [0041 – 46].

The claim further requires the second deflection portion deflecting the connector clip, prior to insertion of the lead between the first arm and the second arm, from a first position corresponding to a first distance between the first arm and the second arm, to a second position corresponding to a second distance between the first arm and the second arm, wherein the second distance is greater than the first distance. This functional relationship is illustrated in Figures 5B and 7B and is discussed in paragraphs [0045] and [0047].

B. Claim 15

Claim 15 sets forth an implantable medical device capable of being detachably connected to a lead.

The claim requires that the device comprises a first deflectable connector clip including a first arm, a second arm, and a top portion extending between the first arm and the second arm. The clip is illustrated in Figure 3 and is described in paragraphs [0038 – 40].

The claim further requires a housing having a first member and a second member, the first member having a first outer surface forming an annular shelf extending radially outward from an edge of a main surface and terminating at an outer edge of the first member, and the second member having a second outer surface and a cylindrical rim extending outward along and perpendicular to an outer edge of the second outer surface, the annular shelf of the first member formed to receive and fixedly engage with the cylindrical rim of the second member to retain the first connector clip within the housing, the engaged first member and the second member forming an aperture for receiving the lead. The first and second housing members are illustrated in Figure 2 and described generally in paragraph [0037]. The structural details of the housing members are illustrated in Figures 4A – 4C, 5A – B and 6A – C and described in paragraphs [0041 – 46].

The claim further requires a first inner surface of the first member extending from the aperture to the first outer surface and a second inner surface of the second member extending from the aperture to the second outer surface. These elements correspond to the support ridges 30 or the support pegs 31 as illustrated in Figures 4A – 4C, 5A – B and 6A – C and described in paragraphs [0041 – 46].

The claim further requires a first deflection portion extending outward from at least one of the first inner surface and the second inner surface along the top portion of the first deflectable clip. This element corresponds to one of the bracing ridges 28 as illustrated in Figures 4A – 4C, 5A – B and 6A – C and described in paragraphs [0041 – 46].

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The claim further requires the second deflection portion deflecting the connector clip, prior to insertion of the lead between the first arm and the second arm, from a first position corresponding to a first distance between the first arm and the second arm, to a second position corresponding to a second distance between the first arm and the second arm, wherein the second distance is greater than the first distance. This functional relationship is illustrated in Figures 5B and 7B and is discussed in paragraphs [0045] and [0047].

#### VI. Grounds of rejection to be reviewed on appeal

A. Rejection based upon obviousness-type double patenting as being unpatentable claims 1-48 of copending U.S. Patent Application No. 10/632026 (U.S. Patent Publication No. 2005/0027325).

This rejection is respectfully appealed

B. Rejection based upon obviousness-type double patenting as being unpatentable over claims 1-30 of co-pending U.S. Patent Application No. 10/632028 (U.S. Patent Publication No. 2005/0027326)

As the cited application now has received a notice of allowance, this rejection is no longer appealed.

VII. Argument - Rejection of Claims

A. Rejection based upon obviousness-type double patenting as being unpatentable over claims 1-48 of copending U.S. Patent Application No. 10/632026 (U.S. Patent Publication No. 2005/0027325).

This rejection is believed to be inappropriate in the present circumstance, in which co-pending Application No. 10/632026 (U.S. Patent Publication No. 2005/0027325) has all claims presently rejected over cited prior art. Any necessary terminal disclaimer can be filed in the '026 application when and if claims are allowed over the art.

B. Rejection based upon obviousness-type double patenting as being unpatentable over claims 1-30 of co-pending U.S. Patent Application No. 10/632028 (U.S. Patent Publication No. 2005/0027326).

In response to the Notice of Allowance in this application dated October 19, 2009, applicants herewith submit a terminal disclaimer with respect to this application.

The Commissioner is authorized to charge any deficiencies and credit any overpayments to Deposit Account No. 13-2546 for entry of the instant Response.

Respectfully submitted,

Date: November 4, 2009

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## VIII. Claims Appendix

The claims on appeal are as follows:

1. A connector assembly for detachably connecting a lead to an implantable medical device, comprising:

a first deflectable connector clip including a first arm, a second arm, and a top portion extending between the first arm and the second arm;

a housing having a first member and a second member, the first member having a first outer surface forming an annular shelf and the second member having a second outer surface and a cylindrical rim extending outward along and perpendicular to an outer edge of the second outer surface, the annular shelf of the first member formed to receive the cylindrical rim to be fixedly engaged with the second member to retain the first connector clip within the housing, the engaged first member and the second member forming an aperture for receiving the lead;

a first inner surface of the first member extending from the aperture to the first outer surface and a second inner surface of the second member extending from the aperture to the second outer surface;

a first deflection portion extending outward from at least one of the first inner surface and the second inner surface along the top portion of the first deflectable clip; and

a second deflection portion extending outward from the at least one of the first inner surface and the second inner surface to be positioned between the first arm and the second arm, the second deflection portion deflecting the connector clip, prior to insertion of the lead between the first arm and the second arm, from a first position corresponding to a first distance between the first arm and the second arm, to a second position corresponding to a second distance between the first arm and the second arm, wherein the second distance is greater than the first distance.

2. (Canceled)

3. The connector assembly of claim 1, wherein the housing and the connector clip are formed of an electrically conductive metal.
4. The connector assembly of claim 3, wherein the electrically conductive metal is stainless steel.
5. The connector assembly of claim 1, wherein the first arm and the second arm are engaged against the lead as the lead is advanced through the aperture to further deflect the first arm and the second arm from the second position to a third position.
6. The connector assembly of claim 5, wherein the second deflection portion extends between a first end and a second end, and the first arm and the second arm are engaged against the first end and the second end, respectively, when the connector clip is in the second position.
7. The connector assembly of claim 6, wherein the first arm and the second arm extend a distance outward from the first end and the second end, respectively, when the connector clip is in the third position.
8. The connector assembly of claim 1, further comprising:
  - a second deflectable connector clip including a first arm, a second arm, and a top portion extending between the first arm and the second arm of the second connector clip;
  - a third deflection portion extending outward from the other of the first inner surface and the second inner surface along the top portion of the second connector clip; and
  - a fourth deflection portion, extending outward from the other of the first inner surface and the second inner surface to be positioned between the first arm and the second arm of the second connector clip, deflecting the second connector clip from the first position to the second position.

9. The connector assembly of claim 8, wherein the first connector clip is positioned generally perpendicular to the second connector clip.

10. (Canceled)

11. The connector assembly of claim 8, wherein the first arm and the second arm of the first connector clip and the first arm and the second arm of the second connector clip are engage against the lead as the lead is advanced through the aperture to further deflect the first arm and the second arm of the first connector clip and the first arm and the second arm of the second connector clip from the second position to a third position.

12. The connector assembly of claim 10, wherein the first arm and the second arm of the first connector clip are positioned outward from the second deflection portion and the first arm and the second arm of the second connector clip are positioned outward from the fourth deflection portion when the first connector clip and the second connector clip are in the third position.

13. (Canceled)

14. The connector assembly of claim 1, wherein ends of the first arm and the second arm include tapered portions to provide clearance between the ends and the housing.

15. An implantable medical device capable of being detachably connected to a lead, comprising:

- a first deflectable connector clip including a first arm, a second arm, and a top portion extending between the first arm and the second arm;

- a housing having a first member and a second member, the first member having a first outer surface forming an annular shelf extending radially outward from an edge of a main surface and terminating at an outer edge of the first member, and the second

member having a second outer surface and a cylindrical rim extending outward along and perpendicular to an outer edge of the second outer surface, the annular shelf of the first member formed to receive and fixedly engage with the cylindrical rim of the second member to retain the first connector clip within the housing, the engaged first member and the second member forming an aperture for receiving the lead;

a first inner surface of the first member extending from the aperture to the first outer surface and a second inner surface of the second member extending from the aperture to the second outer surface;

a first deflection portion extending outward from at least one of the first inner surface and the second inner surface along the top portion of the first deflectable clip; and

a second deflection portion extending outward from the at least one of the first inner surface and the second inner surface to be positioned between the first arm and the second arm, the second deflection portion deflecting the connector clip, prior to insertion of the lead between the first arm and the second arm, from a first position corresponding to a first distance between the first arm and the second arm, to a second position corresponding to a second distance between the first arm and the second arm, wherein the second distance is greater than the first distance.

16. (Canceled)

17. The device of claim 15, wherein the housing and the connector clip are formed of an electrically conductive metal.

18. The device of claim 17, wherein the electrically conductive metal is stainless steel.

19. The device of claim 15, wherein the first arm and the second arm are engage against the lead as the lead is advanced through the aperture to further deflect the first arm and the second arm from the second position to a third position.

20. The device of claim 19, wherein the second deflection portion extends between a first end and a second end, and the first arm and the second arm are engaged against the first end and the second end, respectively, when the connector clip is in the second position.

21. The device of claim 20, wherein the first arm and the second arm extend a distance outward from the first end and the second end, respectively, when the connector clip is in the third position.

22. The device of claim 15, further comprising:

a second deflectable connector clip including a first arm, a second arm, and a top portion extending between the first arm and the second arm of the second connector clip;

a third deflection portion extending outward from the other of the first inner surface and the second inner surface along the top portion of the second connector clip; and

a fourth deflection portion, extending outward from the other of the first inner surface and the second inner surface to be positioned between the first arm and the second arm of the second connector clip, deflecting the second connector clip from the first position to the second position.

23. The device of claim 22, wherein the first connector clip is positioned generally perpendicular to the second connector clip.

24. (Canceled)

25. The device of claim 22, wherein the first arm and the second arm of the first connector clip and the first arm and the second arm of the second connector clip are engage against the lead as the lead is advanced through the aperture to further deflect

the first arm and the second arm of the first connector clip and the first arm and the second arm of the second connector clip from the second position to a third position.

26. The device of claim 24, wherein the first arm and the second arm of the first connector clip are positioned outward from the second deflection portion and the first arm and the second arm of the second connector clip are positioned outward from the fourth deflection portion when the first connector clip and the second connector clip are in the third position.

27. (Canceled)

28. The device of claim 15, wherein ends of the first arm and the second arm include tapered portions to provide clearance between the ends and the housing.

29. The connector assembly of claim 1, wherein the first deflectable clip is anchored to the housing by the first deflection portion of the second member prior to insertion of the lead.

IX. Evidence Appendix

None.

X. Related Proceedings Appendix

None.